## ANNEX L

## MASS TRANSPORTATION ACCIDENTS

### I. TYPE OF HAZARD

Mass Transportation Accident

### II. DESCRIPTION OF HAZARD

For the purpose of this study, mass transportation is defined as the means, or system, that transfers large groups of individuals from one place to another. This annex addresses only transportation accidents involving people, not materials. Thus, mass transportation accidents include public airlines, railroad passenger cars, metro rail travel, tour buses, city bus lines, school buses, riverboat casinos, and other means of public transportation.

The State of Missouri serves as a transportation crossroad for the United States. Missouri, being centrally located in the nation, is a natural hub for many major airlines and other types of tourist and business travel. Many cross-country travelers use Missouri terminals to connect with transport changes. Our airways, railways, and highways are used as nonstop thoroughfares as well.

In 1993, Missouri's largest city, St. Louis, began operating a MetroLink rail transportation system. Before service began, ridership was projected at 12,000 per day. In August 1993, during the system's first month of operation, between 20,000 and 35,000 rode the MetroLink each day. In July 1994, the average weekday ridership topped 42,000 commuters. MetroLink carried nearly 9 million customers during its first year of operation. During 1997 and1998, 54.2 million residents rode public transportation, with MetroLink ridership continuing to grow, averaging 44,500 per day. During Independence Day celebrations on July 4, 1999, the MetroLink moved 160,833 passengers. Normally, the largest numbers of people are transported during the morning and evening rush hours.

Amtrak, the state's major passenger rail carrier, uses tracks that cross the entire state, from east to west. Although Amtrak has experienced a decline in passengers during this decade, it continues to carry a large number of passengers daily. The peak periods are related to holidays or special events.

Branson, Missouri, which is located close to the state's southwestern border, has become one of this state's major tourist attractions. It ranks high among the nation's top attractions. Because Branson is a small community, tourists are more visible there than in Kansas City and St. Louis. The city has been expanding its services (number of hospital beds, fire equipment, ambulances) and is able to provide more assistance than other small communities in the state.

Tour bus travel in the state is on the increase. With Branson continuing to expand, more bus traffic can be expected. The Passenger Carrier Inspection Division of the Missouri Department of Transportation (MoDOT) has developed a comprehensive passenger carrier safety inspection program. Passenger carrier safety is a primary concern for the Division because Missouri, and especially Branson, is among the top tourist destinations in North America. Division inspectors conduct safety inspections at destinations or carrier terminals when buses do not have passengers on board.

In comparison, the threat of a terrorist attack on any mass transit system is relevant in Missouri. On July 7, 2005 there were 4 explosions in the London Underground during morning rush hour: first hit was

a commuter train in London's financial district that killed 7; second hit was a commuter train at King's Cross Station that killed 21 people; third hit was a commuter train west of King's Cross that killed 5 people; fourth hit was a double-decker tourist bus near King's Cross station. Scotland Yard determined that Islamic extremists were the suicide bombers. This attack exemplifies the hazard that exists for any mass transportation system in the world.

The Division has two classifications of passenger carriers: for-hire and private.

For-hire passenger carriers provide service to the general public and are required to register with the Division. Private carriers provide passenger service in furtherance of a commercial enterprise. Examples include, but are not limited to, hotel courtesy buses, airport passenger shuttle services, buses operated by professional musicians, and buses for civic and other groups such as scout groups where no fees are collected.

The definition of a passenger carrier varies somewhat depending on whether the operation is entirely intrastate or interstate. The Federal Highway Administration's Office of Motor Carriers defines interstate passenger carrier as any vehicle designed to transport more than eight passengers, including the driver across state boundaries. The Administration's definition includes any vehicle (not operated as a taxi or otherwise exempt) designed to transport more than six passengers, including the driver, within the state.

## III. HISTORICAL STATISTICS

Commercial motor vehicles have been involved in a significant number of Missouri traffic accidents. In 2001 10.4 percent of all traffic accidents involved a commercial motor vehicle. Of fatal traffic accidents, 14.4 percent involved a commercial motor vehicle. A total of 168 persons were killed and 6,003 were injured in commercial motor vehicle-related accidents in 2001. Commercial motor vehicles are defined as trucks having six or more tires on the power unit, buses or school buses having occupant capacities of 16 or more, and vehicles displaying hazardous materials placards. In 2001, accidents involving buses and school buses resulted in six fatalities.

In Light Rail Progress, June 2003, national statistics for transit passengers and. motor vehicle occupants were reported; these are summarized in Table L-1 below. National motor vehicle fatality and passenger mile data are from the US Bureau of Transportation Statistics, May 2003. They are based on the average of 1990-2000 data (passenger-mile data for 2001 were not currently available).

Transit data are taken from the American Public Transportation Association (APTA) and the National Transit Database (NTDB) of the Federal Transit Administration (FTA), May 2003. Data for 1999-2001 were averaged (since all relevant data items were available for that period).

**TABLE L-1**

**FATALITY RATES PER 100 MILLION PASSENGER-MILES HIGHWAY VEHICLE OCCUPANTS AND TRANSIT PASSENGERS**

| | |
|---|---|
| Highway Vehicles | 0.89 |
| Regional ("commuter") rail | 0.03 |
| Rail rapid transit | 0.47 |
| Light rail transit | 0.23 |
| Bus | 0.07 |

## IV. MEASURE OF PROBABILITY AND SEVERITY

A major accident can occur at any time, even though all safety precautions are in place. Based on the latest available information, the probability and severity of a mass transportation accident are both rated as moderate.

## V. IMPACT OF THE HAZARD

A mass transportation accident, which could include those involving buses, could burden a local jurisdiction's available medical services. To minimize this problem, mutual aid agreements with adjoining jurisdictions should be developed between ambulance services and the hospitals. This type of hazard could involve hazardous materials or a fire, which would compound the impacts of the incident. Severe weather could also hamper response efforts.

## VI. SYNOPSIS

The State of Missouri serves as a transportation crossroad for the United States. Branson, Missouri, which is located close to the state's southwestern border, has become a major tourist attraction. Because Branson is a small community, tourists represent a large portion of population. To meet the needs posed by the large number of tourists, the city has been expanding its services (number of hospital beds, fire equipment, ambulances, etc.) and is able to provide more assistance than other communities of its size. A mass transportation accident, which could include those involving buses, could burden a local jurisdiction's available medical services. To minimize this problem, mutual aid agreements with should be developed between ambulance services and hospitals of adjoining jurisdictions. The risk of this type of incident is moderate.

## VII. MAPS OR OTHER ATTACHMENTS

For additional information, see the 2001 Missouri Traffic Safety Compendium, available from the Statistical Analysis Center of the Missouri State Highway Patrol, a division of Public Safety.

## VIII. BIBLIOGRAPHY

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